

# How the Financial Markets will Service the Forthcoming ETS

## Carbon Trading, Clean Energy & the Cost of Inaction

27 June 2008



**ASX**

AUSTRALIAN SECURITIES EXCHANGE

# Overview

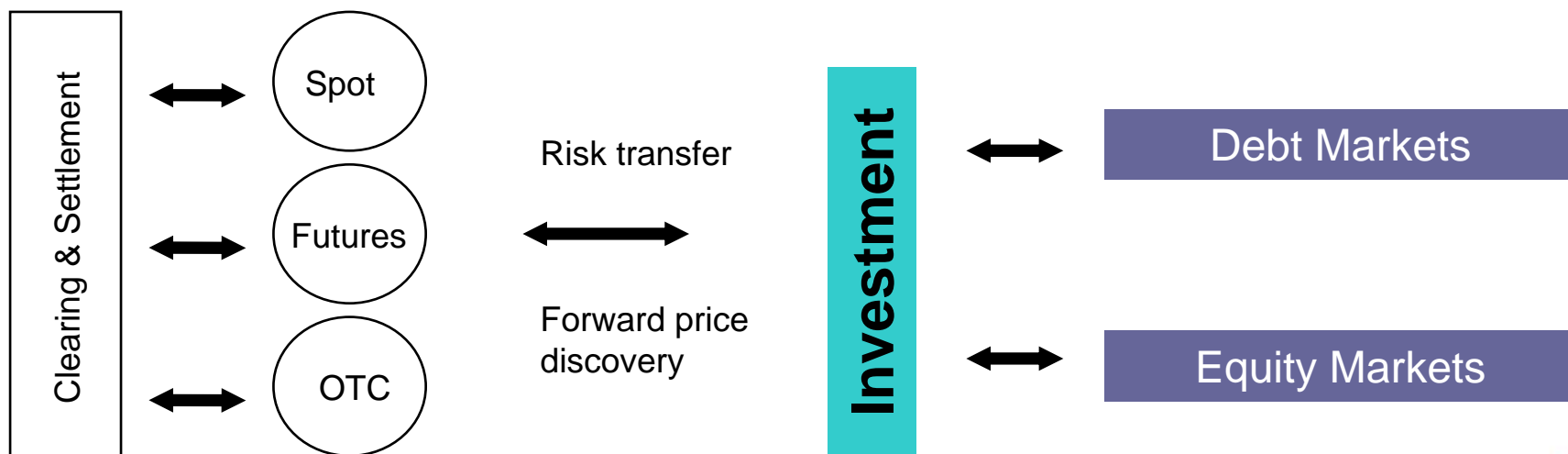
- What financial market structure exists to support emissions trading?
- How are the financial markets likely to evolve?
- ASX market infrastructure and preparedness for emissions trading

# Background on ASX

- Created through merger of ASX and SFE in June 2006
- Top 10 exchange/ 2<sup>nd</sup> largest in Asia by market cap/ largest futures exchange in the Asia Pacific (\$42 tn pa)
- Broad range of products: equities; interest rate; agricultural; energy & environmental products
- Key business focus (derivatives/ ASX Austraclear):
  - hedge funds, proprietary trading firms, algo traders etc (Asia, Europe & US)
  - energy & environmental products
    - natural gas
    - emission permits/ fungible credits
    - renewable energy certificates
    - coal
    - iron ore

# Role of Financial Markets

- The role of the financial markets in Australia's ETS is to facilitate:
  - liquidity;
  - price discovery;
  - risk transfer;
  - clearing and settlement of trades.



# Australia's Forthcoming ETS

- Key design principles
  - Cap & trade
  - Short term emission reduction targets
  - Maximum coverage of greenhouse gases and sectors
  - International linkages
  - Emission intensive trade-exposed industries
- Lessons from the EU ETS
  - Over-allocation
  - Reporting
  - Free allocation vs auctioning
  - Stand-alone registries

# Australia's Forthcoming ETS

- The Government's Timetable
  - Jul 08 - Green Paper on scheme design
  - Dec 08 - exposure draft legislation package
  - End 08 - firm indication of planned medium-term trajectory
  - Mar 09 - Bill introduced into Parliament
  - Mid-09 - Passage of Bill
  - 3<sup>rd</sup> Qtr 09 – Act enters into force; scheme regulator established
  - 2010 – Formal commencement of scheme

# The Global Experience To-date

Carbon Market at a Glance, Volumes & Values in 2006-07

	2006		2007	
	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)
<b>Allowances</b>				
EU ETS	1,104	24,436	2,061	50,097
New South Wales	20	225	25	224
Chicago Climate Exchange	10	38	23	72
UK ETS	na	na		
<b>Sub total</b>	<b>1,134</b>	<b>24,699</b>	<b>2,109</b>	<b>50,394</b>
<b>Project-based transactions</b>				
Primary CDM*	537	5,804	551	7,426
Secondary CDM	25	445	240	5,451
JI†	16	141	41	499
Other Compliance & Voluntary Transactions	33	146	42	265
<b>Sub total</b>	<b>611</b>	<b>6,536</b>	<b>874</b>	<b>13,641</b>
<b>TOTAL</b>	<b>1,745</b>	<b>31,235</b>	<b>2,983</b>	<b>64,035</b>

\*: Clean Development Mechanism; †: Joint Implementation

# Likely Market Evolution

## Spot

4% - 41m CO2 t

- PowerNext (31.4m)
- EEX (8.4m)
- EXAA (0.3m)

## Futures

45% - 456m CO2 t

- ECX (452.8m)
- EEX (1.8m)

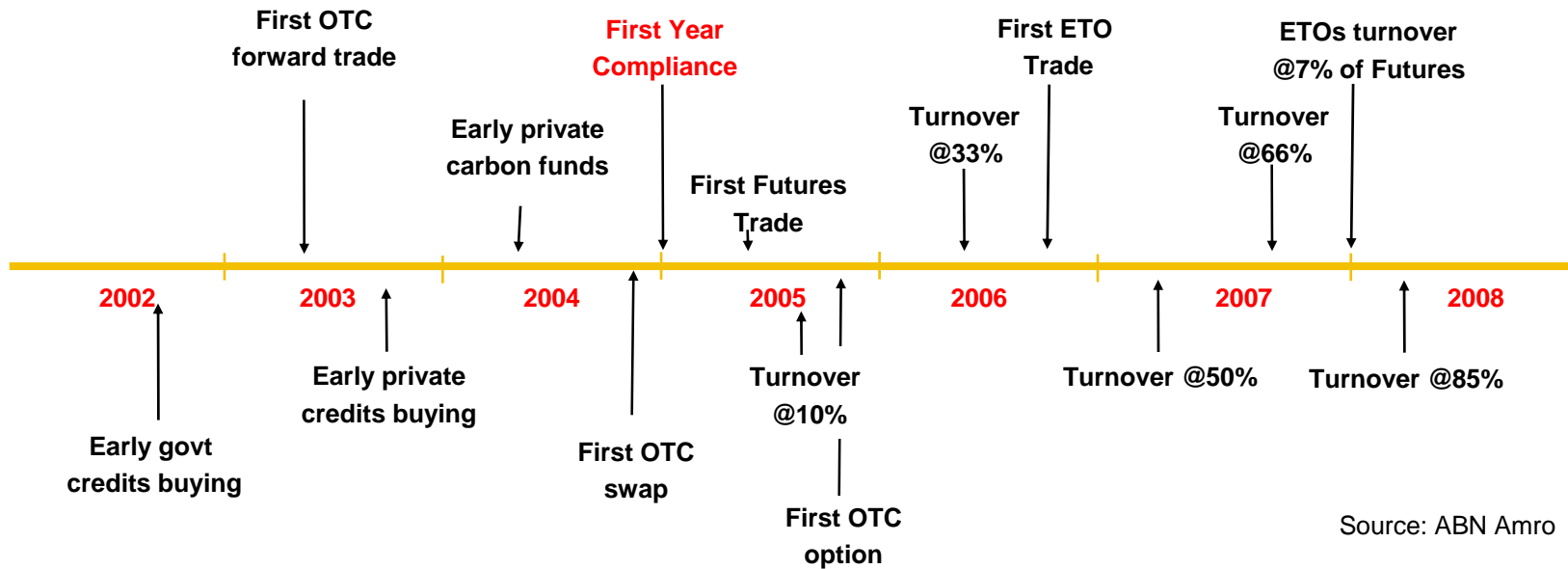
## OTC

51% - 604m CO2 t

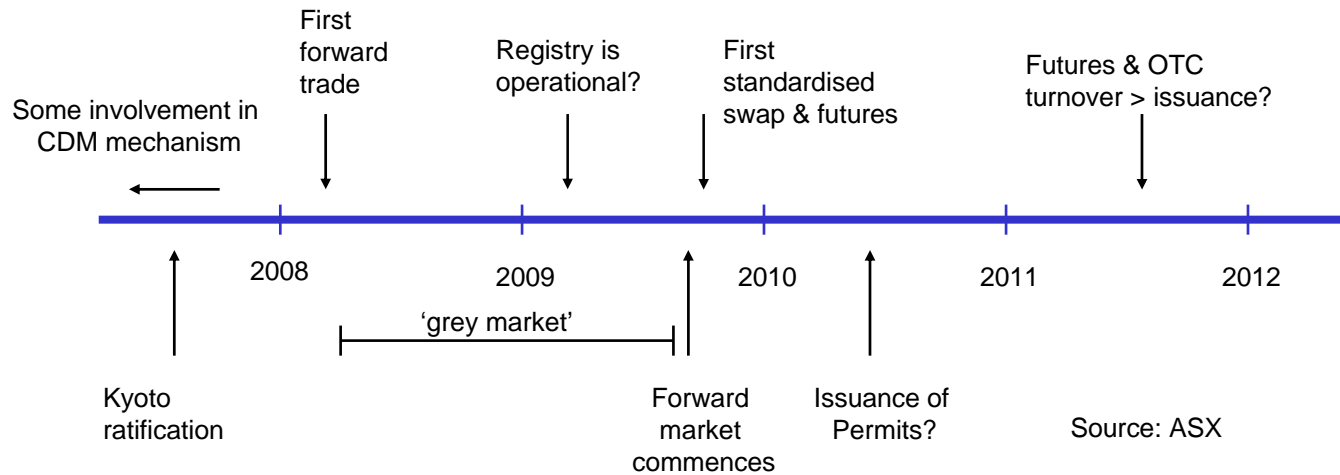
EU ETS Trading Scheme – 1,101m CO2 tons (2006)

**“Liquidity will gravitate to the forward market”**

# Likely Market Evolution



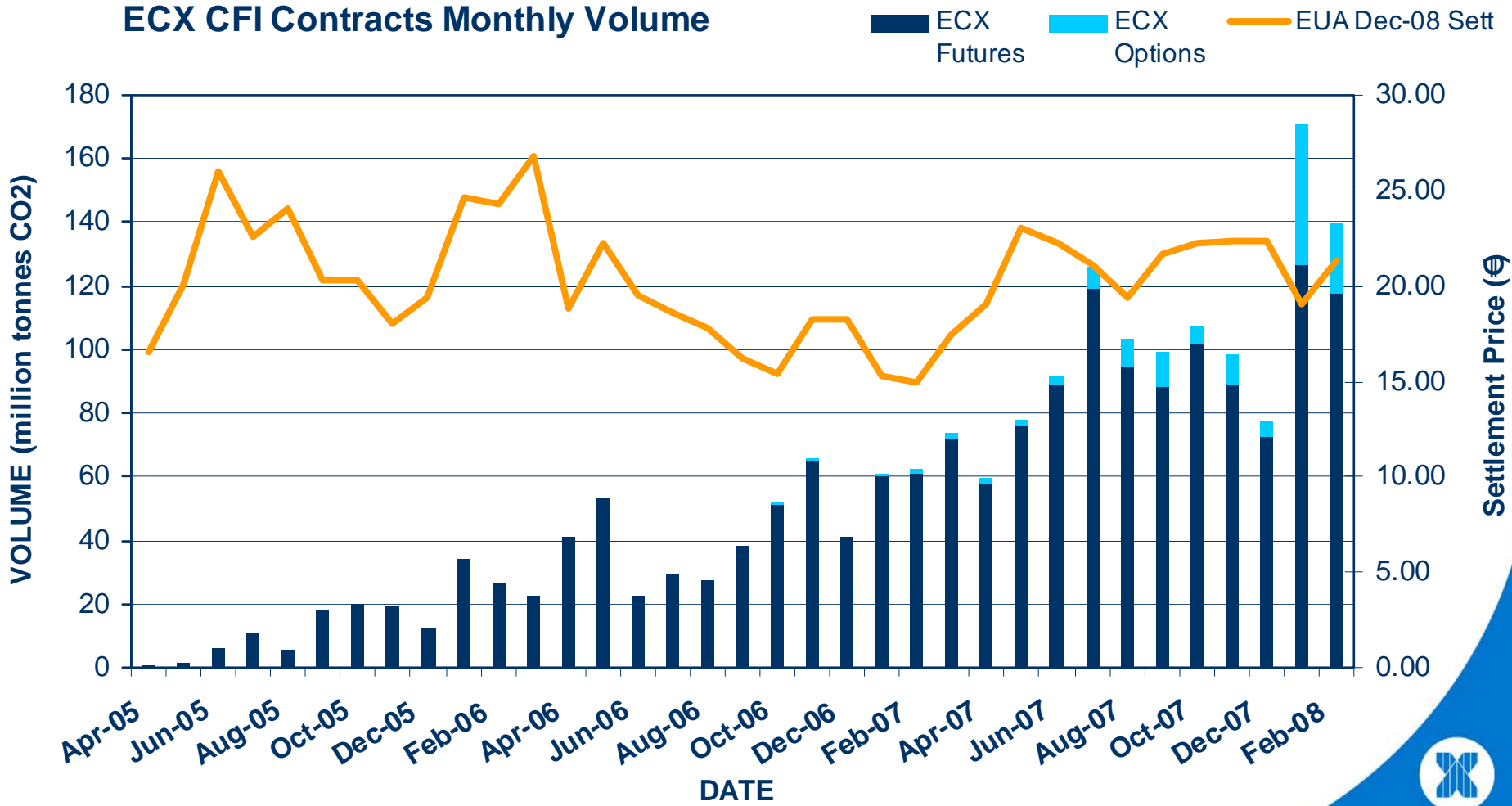
# Likely Market Evolution



# Motivation/ Conditions of Early Trades

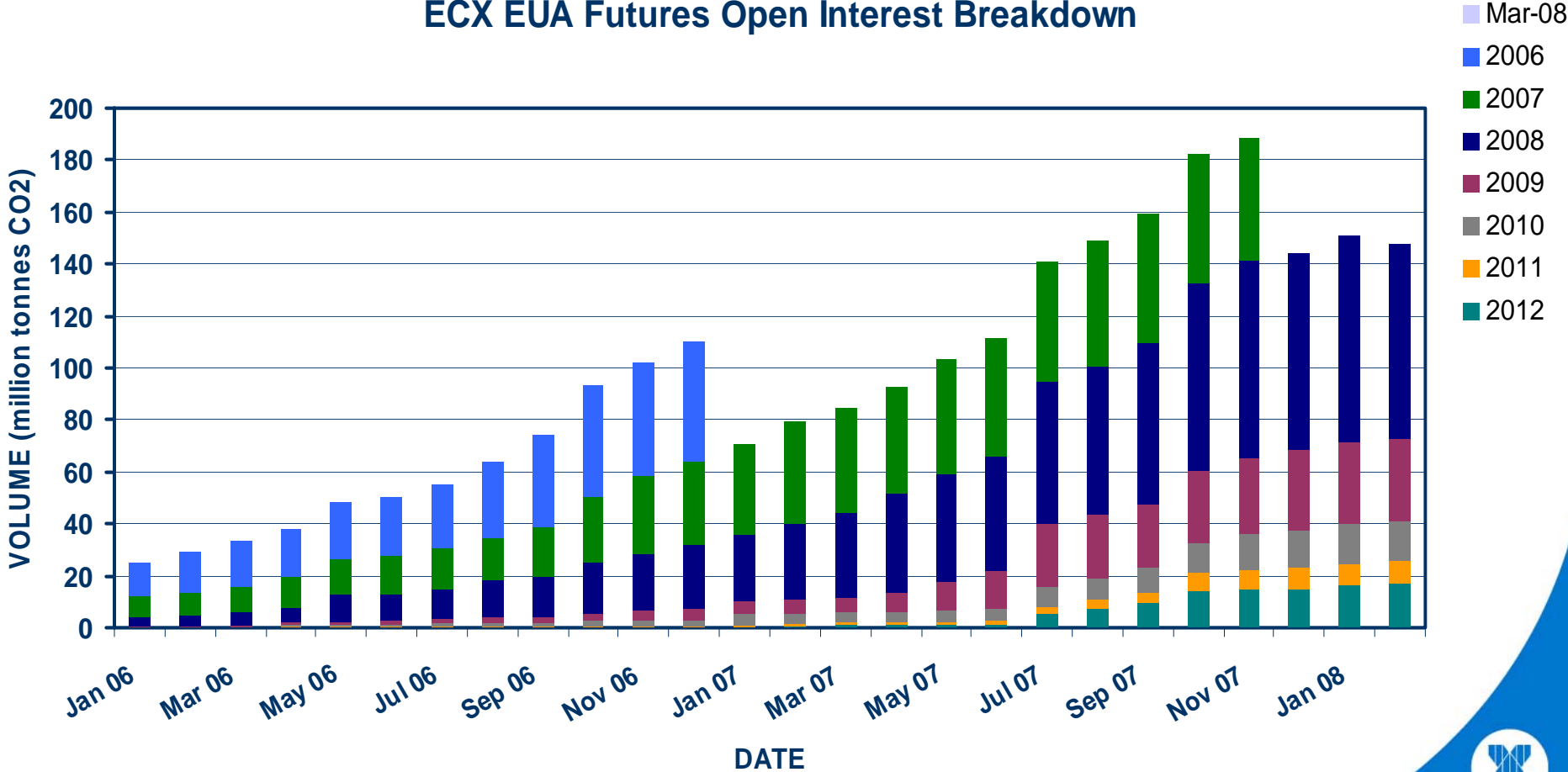
- Motivations – marketing → risk management (*option trading*)
- Likely key clauses:
  - definition of an Australian Emission Trading Unit (AETU)
  - conditions precedent
  - sale & transfer (via registry)
  - liquidated damages (make whole provisions/ shortfall charges)
  - registration system disruption events
  - other (netting/ credit support)

# Likely Market Evolution



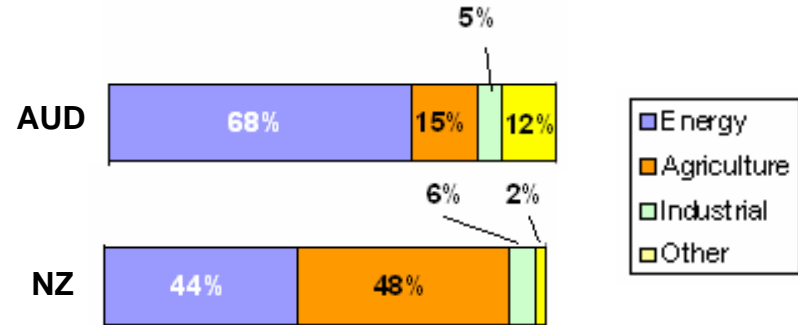
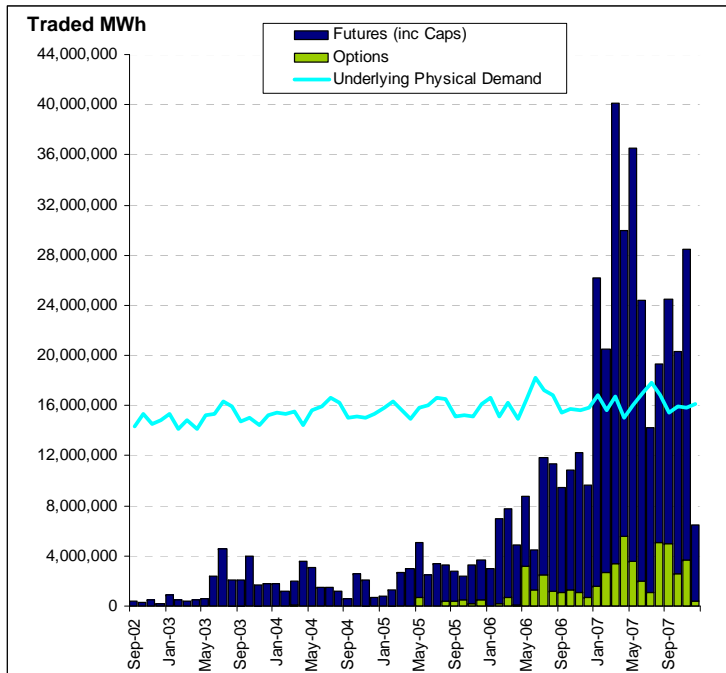
# Likely Market Evolution

ECX EUA Futures Open Interest Breakdown

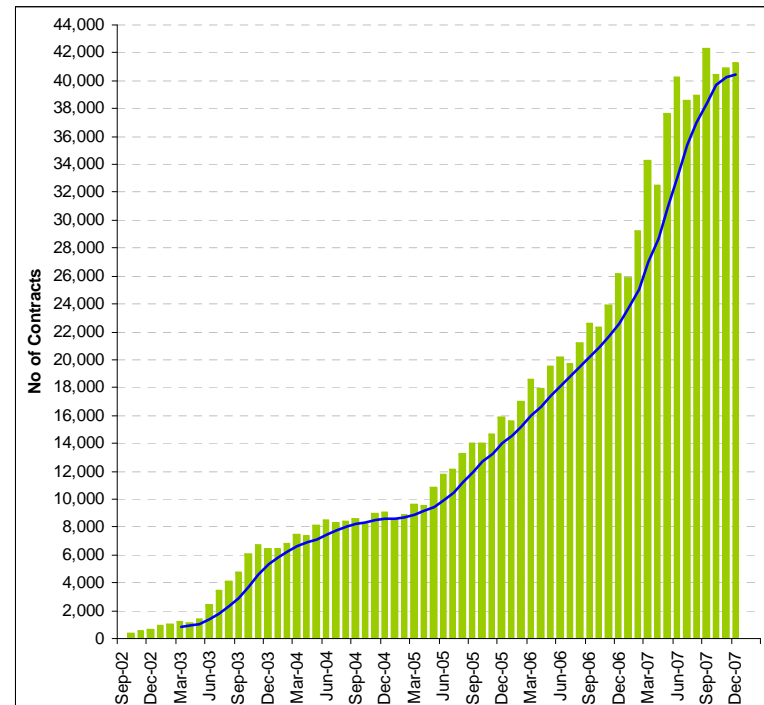


# The Stationary Energy Sector

## Electricity Futures & Options: Volume



## Electricity Futures & Options: Open Interest



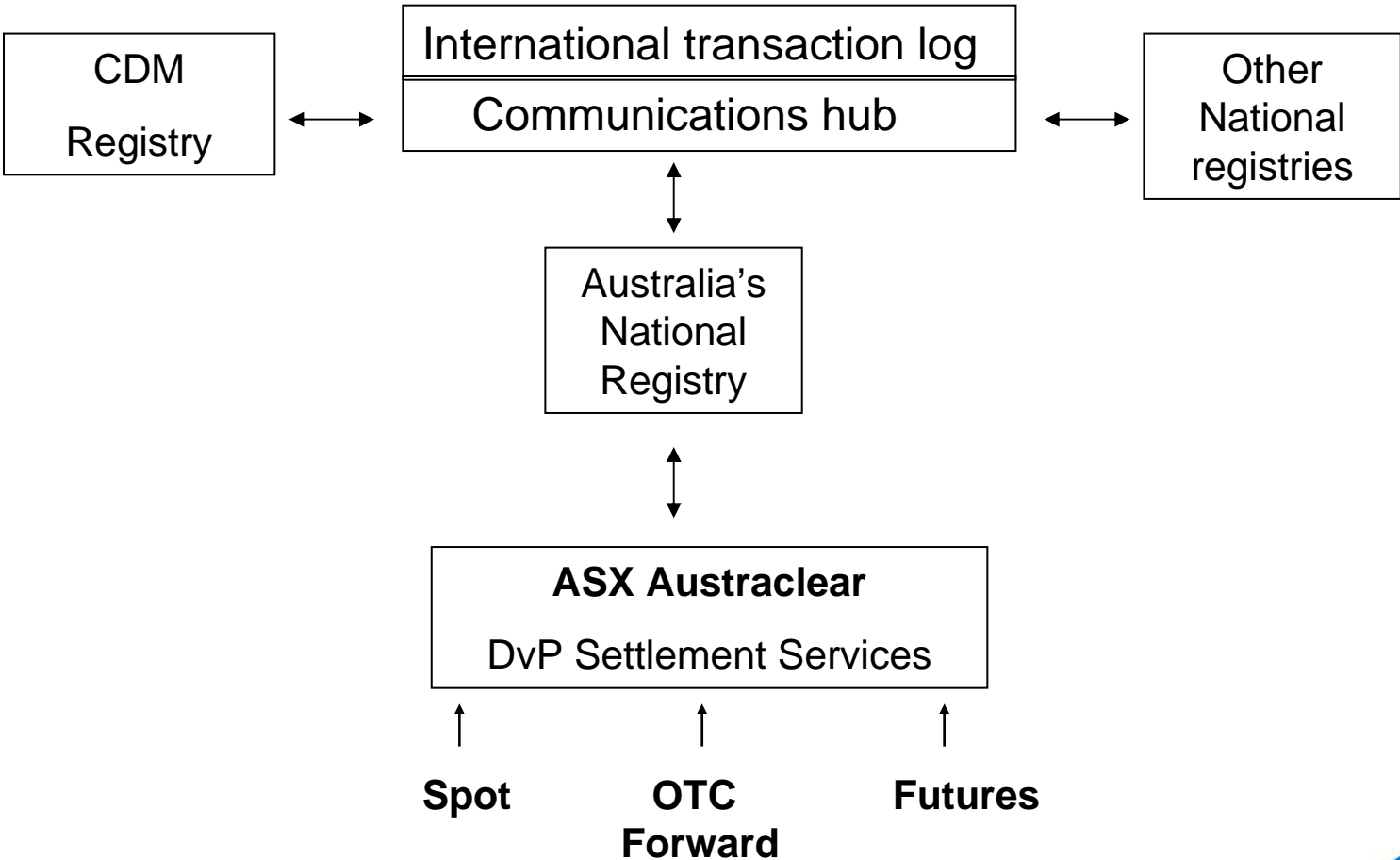
# Emissions Trading at ASX

## ASX Emission Permit Futures

Unit of Trading	One lot of 1,000 permits. Each permit being an entitlement to emit one tonne of carbon dioxide equivalent gas.
Price Quotation	Australian dollars (\$) and cents (c) per metric tonne, eg \$32.55.
Contract Month	Financial year expiries for the first 5 years of the ETS.
Last Trading Day	Last Monday of the Contract Month.
Delivery	At the Holding Account of the Clearing Corporation at the national registry.
Delivery Period	Commences on the business day following the last trading day and ends on the third business day following that last trading day.

# Emissions Trading at ASX

## ASX Austraclear Safe Keeping & Settlement Services



# Summary of Key Points

- Pre-requisites for the forward market to commence (in earnest) are legislative certainty and emission reduction targets.
- A futures market will provide the carbon price signal and risk transfer mechanism for firms to make and implement informed decisions.
- Intermediaries will service most firms with liabilities under the forthcoming ETS.
- A settlement service (eg ASX Austraclear) is a pre-requisite for the market to operate efficiently.